Hochschule Kempten
University of Applied Sciences

EyeCandy3D User Manual

A 3D Scenegraph built on OpenGL

EVELIN Project

Inhaltsverzeichnis

Introduction 1

EyeCandy3D is a scene graph based on OpenGL. Every program consists of one **Application**, which holds a number of windows. Each window can hold a variable number of scenes, which can run simultaneously.

2 First steps

2.1 Creating a window

Custom windows must be derived from **ec::Window**. This window has to be with the window creation function provided by the application.

2.2 Creating a scene

Custom scenes must be derived from **ec::Scene**. By registering it with the scene manager in the associated window, it can receive updates.

2.3 Resource registry

Built in types:

-

Input 3

Input is provided through the GLFW library.

3.1 Input events

Input events are always bound to one window. There are multiple sources, which can generate input events:

- **Mouse**
- **Keyboard**
- **Window**
- **Joystick**

An **InputEvent** consists of an **InputType** and the **EventData**. The **EventData** holds all different kinds of events, of which only one can be active at a time due to it being a union. The **InputType** describes, which part of the **EventData** is active. All other elements inside **EventData** are invalid!

I.e. if the **InputType** is *key_pressed*, only the KeyboardEvent inside the **EventData** is active.

3.2 EventSystem

An event system is always linked to exactly one window.

DeviceRegistry:

Contains input devices (mouse, keyboard, joystick etc.). Those devices can be activated to generate input events.

InputObservable:

InputListener can be registered at this component, which will then be notified about incoming **InputEvents**.

InputListener:

Input listener contain a number of callbacks, which can be added by the user. Input listener have to be registered at an **InputObservable** located in a window, to be informed about input events.

GUI 4

The GUI is built using the Agui-library with custom backends for OpenGL.

Abbildungsverzeichnis

Tabellenverzeichnis